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Remarks

The present response is to the Office Action mailed in above-referenced case on April 21, 2003. Claims 1-23 are pending for examination. Claims 1 and 12 are rejected under 35 U.S.C. 101, and are further rejected under 35 U.S.C. 112, first paragraph. Claims 1-23 are rejected under 35 U.S.C. 102(B) as being anticipated by Lakshman et al. (ACM 1-58113-003), hereinafter Lakshman.

Applicant has again carefully studied the reference of Lakshman, and has carefully reviewed the Examiner's rejections and statements in the instant Office Action. In response, applicant herein amends the independent claims to more particularly point out and distinctly claim the subject matter of applicant's invention regarded as patentable, overcoming the Examiner's rejections and distinguishing unarguably over the prior art. Applicant points out and argues the key limitations of applicant's invention as recited in applicant's claims as amended, which the Examiner appears to have misunderstood in his rejections and statements. For convenience, applicant reproduces claim 1 below as amended.

Applicant's claim 1 as amended now recites:

1. (Currently Amended) A system for classifying packets, wherein each packet has N header fields to be used for processing, the system comprising:

a first set of rules associating to the packets by values of the header fields; and

a classification system for selecting specific rules in the set of rules as applicable to a specific packet;

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characterized in that the classification system projects the first set of rules as N-dimensional entities on N axes in N-dimensional space, marking the beginning and ending value on each axis for each rule as a breakpoint, assigns a sequence of binary numbers to each interval between breakpoints such that all adjacent intervals are numbered in ascending sequential order, associates a subset of the first set of rules applicable in each interval to the assigned binary number of the appropriate interval between breakpoints on each axis, then considers a packet as a point in the N-dimensional space according to its header field values, locates the binary number assigned to the interval into which the point projects on each axis by performing a search on each axis for the numbered interval into which the point projects on that axis, thereby determining rules applicable to the packet for that axis, and then determines the specific rules applicable to the packet from the subsets of rules by selecting those rules as applicable to the packet that apply to the packet on all of the N axes.

Regarding the Examiner's 101 rejection of applicant's claims 1 and 12, the Examiner stated that applicant's disclosure is inoperative and therefore lacks utility, adding that the concept of "... numbers intervals arbitrarily between break points in sequential ascending binary numbers..." is an oxymoron. Regarding the Examiner's 112 rejection of applicant's claims 1 and 12, the Examiner stated that Fig. 2 of applicant's specification establishes that the interval numbering (center col.) is not arbitrary; rather, it is sequentially binary.

Firstly, applicant wishes to clarify to the Examiner the intended purpose and meaning of applicant's use of the specific language objectionable to the Examiner, specifically the word " arbitrarily". Arbitrary numbering as

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recited in applicant's claims simply means that the beginning number in the numbering scheme does not necessarily begin with (1), such as in the case in applicant's disclosure, thus, the starting number of the numbering scheme is arbitrarily chosen. Subsequent numbering of adjacent intervals along the axes between breakpoints is sequential in ascending order.

However, in order to overcome the rejections of claims 1 and 12, applicant herein amends the language of claims 1 and 12 removing the word "arbitrarily" from the claim language, and adding language to make the limitation quite specific.

The Examiner has again kindly provided a lengthy and substantive "Response to Arguments" portion of the instant Office Action assiduously reflecting applicant's arguments, providing a detailed response to each. Applicant is very much appreciative of the Examiner's efforts. However, applicant notes that, in the several responses provided by the Examiner to applicant's previous arguments, the Examiner still has not directly refuted applicant's arguments on the merits, that Lakshman does <u>not</u> anticipate what is claimed relative to the binary numbering of each interval between breakpoints in ascending order. Specifically, the Examiner's responses to applicant's arguments beginning on page 5 of the instant Office Action, that applicant's invention as claimed clearly discloses numbering the <u>intervals formed between breakpoints</u>. The Examiner responds to the specific arguments by stating that the above 101 and 112 rejections, and paragraph 3 of the instant Office Action apply, rather than dealing with the limitation Regarding the Examiner's 102 rejection of applicant's claims 1-23, the Examiner stated in the instant Office Action that, regarding claim 1, Lakshman anticipates all of the limitations of applicant's claim including numbering intervals between break points in sequential ascending binary numbers, and locating the binary numbered interval into which the point projects on each axis by performing a search on

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each axis for the numbered interval into which the point projects on that axis for determining rules applicable to the packet. Applicant respectfully but strongly disagrees.

The Examiner notes that a set of break points constitutes an interval. Applicant agrees, but also wishes to make very clear to the Examiner that applicant's invention teaches assigning sequential binary numbers to each interval between the breakpoints, and then using these assigned numbers, which are emphatically not the breakpoint values, or bearing any specific relationship to the breakpoint values, and Lakshman clearly and unarguably does not teach this specific limitation. Applicant's invention teaches the application of assigned binary numbers, and using the binary numbers assigned to the intervals in performing the search on each axis. Said assigned binary numbers are not, and have nothing whatsoever to do with values on the axes.

Specifically, to further clarify to the Examiner the key and patentable distinction of applicant's disclosure, applicant now wishes to direct the Examiner's attention to applicant's Fig. 1, illustrating a mapping of three rules onto two axes representing two header fields for a packet. In the example given, there are a total of seven intervals formed by the values of the breakpoints. Seven different binary numbers are sequentially assigned to the intervals between the breakpoints, one binary number being assigned to each interval such that all adjacent intervals are binary numbered in ascending sequential order. As illustrated in applicant's Fig. 2, a table then relates interval numbers and bitmaps of rule association by interval.

The Examiner states on page 8 of the instant Office Action that Lakshman arbitrarily numbers intervals between breakpoints. Applicant is perplexed by the fact that the Examiner renders applicant's above specific claim language as unpatentably vague, but applies the specific language in the

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reference. Applicant respectfully but urgently requests that the Examiner please provide applicant the specific language in the reference which discloses said limitation as recited in applicant's claims.

It seems the Examiner has simply employed the common tactic of quoting applicant's claim language and attributing it to the reference, rather than the much more useful, but more difficult process of relating actual teaching from the reference to the claimed limitations. The reference should be quoted for what it says. We request that the Examiner quote the actual reference teaching, and then argue how that teaching reads on applicant's claim. The Examiner is citing portions of the reference, then quoting portions of applicant's claim language which are plainly and clearly not mentioned in the reference. What the Examiner relates to the reference is conjecture.

The Examiner notes at the bottom of page 8 of instant Office Action that a set of breakpoints constitutes an interval. Applicant agrees, but argues that a set of breakpoints does not apply sequential binary numbers to intervals between the breakpoints, as taught and claimed in applicant's invention. Further, regarding applicant's claims 2 and 13, the Examiner stated that Lakshman anticipates the search performed on each axis is a binary search conducted by selecting breakpoints at which the bits change for the binary numbered intervals (p. 209 col. 2, lines 59-62). Again, applicant points out to the Examiner that Lakshman clearly and unarguably does not teach binary numbered intervals, and applicant respectfully requests that the Examiner please provide applicant with the specific language in the portion cited and applied above by the Examiner, which discloses this specific limitation.

Further to the above, the Examiner stated on page 8 of the instant Office Action, that Lakshman locates the binary numbered interval into which the point projects on each axis by performing a search on each axis for the numbered interval into which the point projects on that axis. Applicant must

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again reiterate to the Examiner that **the reference nowhere teaches, suggests or intimates numbering intervals** with binary numbers, and therefore cannot possibly locate the binary numbered interval into which the point projects on each axis by performing a search on each axis for the numbered interval into which the point projects on that axis.
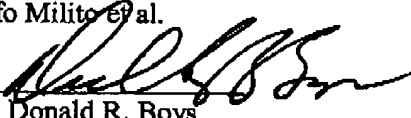
In view of applicant's above amendments to the claims and substantive arguments provided in the present response, applicant strongly believes that independent claims 1 in 12 are now clearly and unarguably distinguishable over Lakshman, and Lakshman therefore now fails as a primary reference and anticipating all of the limitations of applicant's independent claims. Depending claims 2-11 and 13-23 are then patentable on their own merits, or at least as depended from a patentable claim.

As all of the claims standing for examination as amended have been shown to be patentable over the art of record, applicant respectfully requests reconsideration and that the present case be passed quickly to issue. If any fees are due beyond fees paid with this amendment, authorization is made to deduct those fees from deposit account 50-0534. If any time extension is needed beyond any extension requested with this amendment, such extension is hereby requested.

Respectfully Submitted,

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by_____

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